

I CLAIM:

1. A circular saw comprising:

a worktable having front and rear ends opposite to each other in a longitudinal direction;

5 a mounting seat extending from said rear end of said worktable upwardly, and having a top end distal from said rear end;

10 a blade supporting unit including a pivot end which is pivotally connected to said top end about a pivot axis in a transverse direction relative to the longitudinal direction, a free end which is turnable about the pivot axis to be close to and away from said front end of said worktable, and a middle mounting portion which is interposed between said pivot end and said free end;

15 a motor mounted securely on said mounting seat, and having an output shaft which extends along an output shaft axis that is parallel to the pivot axis for delivering a driving force;

20 a saw blade shaft mounted on and rotatable relative to said middle mounting portion of said blade supporting unit about a blade axis parallel to the output shaft axis, and having a driven end which is disposed laterally of said middle mounting portion, and a coupling end which is opposite to said driven end along the blade axis;

25 a saw blade mounted on and rotated with said coupling end of said saw blade shaft; and

a drive transmission unit disposed to transmit the

driving force of said output shaft to said driven end of said saw blade shaft so as to rotate said saw blade about the blade axis.

5 2. The circular saw of Claim 1, wherein said output shaft axis is aligned with the pivot axis.

10 3. The circular saw of Claim 2, wherein said middle mounting portion of said blade supporting unit includes right and left support walls spaced apart from each other in the transverse direction for receiving said saw blade therebetween, said driven end of said saw blade shaft extending leftwardly and outwardly of said left support wall,

15 said driving transmission unit including a transmitting shaft mounted on and rotatable relative to said blade supporting unit about a driven axis parallel to the blade axis, and having a transmitting end which is disposed leftwardly and outwardly of said left support wall and which is driven by said output shaft of said motor, and a driving end which is opposite to said transmitting end along the driven axis and which extends laterally and outwardly of said right support wall, and

20 a transmitting member disposed to transmit rotational force of said transmitting shaft to rotate said saw blade shaft.

25 4. The circular saw of Claim 3, wherein said top end of said mounting seat has a pivot shaft extending along the pivot axis, said circular saw further comprising a grinding unit

that includes:

a grinding wheel member mounted on and rotated with said driving end of said transmitting shaft about the driven axis;

5 a dust collecting member secured to said right support wall in the vicinity of said grinding wheel member for collecting dust during grinding; and

10 a working table member having a connected end which is mounted on and which is angularly adjustable relative to said pivot shaft, and a table wall which is connected to said connected end, which extends in the longitudinal direction, and which is disposed proximate to said grinding wheel member so as to support a workpiece to be ground by said grinding wheel member.

15 5. The circular saw of Claim 4, wherein said connected end of said working table member is turnable relative to said pivot shaft about the pivot axis, said grinding unit further including a fastening member to lock said working table member from movement relative to said grinding wheel member once said connected end is adjusted angularly.

20 6. The circular saw of Claim 5, wherein said grinding unit further includes an L-shaped plate having an upright plate portion which is secured to said pivot shaft, and a horizontal plate portion which extends perpendicularly to said upright plate portion, which is disposed under said connected end of said working table member, and which has a slit, and a positioning bolt with a threaded end that passes through said slit and that is engaged threadedly in said

connected end so as to guard against turning movement of said working table member relative to said pivot shaft.

7. The circular saw of Claim 2, further comprising:

5 a biasing member disposed to bias said free end of said blade supporting unit to turn away from said front end of said worktable so as to urge said saw blade to move away from said worktable; and

10 a damper unit disposed to lessen biasing force of said biasing member so as to prevent abrupt movement of said saw blade away from said worktable.

8. The circular saw of Claim 7, wherein said damper unit includes

15 a cushioning member having a lower mounting end which is secured to said mounting seat, and an upper depressable end which is depressable to acquire a cushioning force against the biasing force, and

20 a coupling lever pivotally mounted on said upper end of said mounting seat about the pivot axis, a depressing end connected to said upper depressable end, and a weight end disposed opposite to said depressing end and connected to said middle mounting portion of said blade supporting unit such that when said free end of said blade supporting unit is turned away from said front end of said worktable by a biasing force of said biasing member, said depressing end depresses said upper depressable end to acquire the cushioning force against the biasing force.

25 9. The circular saw of Claim 3, further comprising

5 a blade guard which is mounted on said driven end of said saw blade shaft leftwardly and outwardly of said left support wall, which is configured to shield a lower running portion of said saw blade when said blade guard is placed in a lower position, and which is turnable about the blade axis,

a rotary plate which is mounted securely on said blade guard to be turnable with said blade guard,

10 an anchor arm which has a pivot end pivoted to said mounting seat about a linking axis parallel to the pivot axis, and an anchor end opposite to said pivot end, and

15 a stem which is disposed on said rotary plate so as to engage said anchor end of said anchor arm, and which is offset from the blade axis such that, when said saw blade shaft is moved with movement of said free end of said blade supporting unit to be close to said front end of said worktable, said stem is turned about the blade axis by a torque generated as a result of the engagement of said stem with said anchor end of said anchor arm, thereby resulting in sweeping of said blade guard from the lower position to 20 an upper position, where said lower running portion of said saw blade is exposed.